SYSTEM ADMINISTRATION MANUAL

FOR THE

AIRBORNE BROADCAST INTELLIGENCE

(ABI) SYSTEM

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1.0 Scope

1.1 Identification

This System Administration Manual (SAM) provides special operating instructions for the Airborne Broadcast Intelligence (ABI) system. It is specifically intended to assist systems administration personnel in high level trouble-shooting and execution of sys admin functions. This SAM describes in detail ABI Load Procedures, Disk Copy, Disk Update, Disk Upgrade as well as Integrated Database (IDB) Extract and Load Procedures.

1.2 System Overview

The ABI system consists of numerous software programs, running in concert to provide a situation awareness system that requires little operator setup and no operator interaction during use. The system follows the user around the world, optionally using an attached Global Positioning System (GPS) receiver to locate where in the world the user is, and displays the maps, charts, and country outlines that the operator has selected in the scales and orientation selected. (GPS functionality is for AMC only). External events and threat definition messages are received, correlated, and displayed on maps selected by the operator so that the situation can be visually assessed.

The ABI system consists of a customized version of the Combat Intelligence System (CIS) Automatic Associator (AA) 5.0 baseline modified for airborne applications and the Multi Source Tactical System (MSTS). The CIS AA 5.0 components will be renamed and referred to as the ABI Data Fusion Engine, and the MSTS components will be renamed and referred throughout this document as the ABI Displays.

1.3 Purpose

This SAM is written to provide instructions to systems administration personnnel for System Load, Disk Copy, Disk Update, Disk Upgrade and IDB Extraction Procedures for the ABI system. This document will assist sys admin personnel in high level trouble-shooting and execution of sys admin functions.

1.4 Document Overview

This document is organized as follows:

Section 1, Scope, consists of the system identification, a brief description of the ABI system, and a summary of the purpose and contents of this SAM.

Section 2, Referenced Documents, contains a list of documents referenced in this SAM.

Section 3, Design Overview, describes the overall architecture of the ABI system.

Section 4, ABI Load Procedures, describes the procedures for loading a new ABI system from scratch using install CD and 4mm DAT tapes.

Section 5, ABI Disk Update Procedures, describes the procedures to updating an ABI disk.

Section 6, ABI Disk Copy Procedures, describes the procedures for duplicating an ABI disk.

Section 7, ABI Disk Upgrade Procedures, describes the procedures to upgrading the version of software on an ABI disk.

Section 8, IDB Extract Procedures, describes to procedures for extracting the IDB.

Section 9, IDB Load Procedures, describes to procedures for loading the IDB using a 4mm DAT Tape or CD-ROM.

Section 10, Notes, contains an alphabetical listing of all acronyms used in this document.

2.0 Referenced Documents

2.1 Government Documents

This section lists by document number, title, date, and classification all documents referenced in preparing this SAM. It also identifies the source of all documents not available through normal Government stocking activities.

a. ABI-U-NA-N-001, Software Test Description for the Airborne Broadcast Intelligence (ABI) System, 21 May 1999, Electronic Systems Center, Air Force Materiel Command, 50 Griffiss Street, Hanscom Air Force Base, Massachusetts 01731-1619. (U)

b. ABI-U-NA-N-002, Software User's Manual for the Airborne Broadcast Intelligence (ABI) System, 21 May 1999, Electronic Systems Center, Air Force Materiel Command, 50 Griffiss Street, Hanscom Air Force Base, Massachusetts 01731-1619. (U)

c. ABI-U-NA-N-003, Software Design Document for the Airborne Broadcast Intelligence (ABI) System, 21 May 1999, Electronic Systems Center, Air Force Materiel Command, 50 Griffiss Street, Hanscom Air Force Base, Massachusetts 01731-1619. (U)

d. ABI Software Maintenance and Production Support (TTD 98-11), July 2, 1998; Lockheed Martin Mission Systems, Colorado Springs Division, 9975 Federal Drive, Colorado Springs, Colorado, 80921. (U)

e. Airborne Broadcast Intelligence (TTD 98-11), September 9, 1998; Lockheed Martin Mission Systems, Colorado Springs Division, 9975 Federal Drive, Colorado Springs, Colorado, 80921. (U)

2.2 Non-Government Documents

a. Motif Style Guide, Open Software Foundation, Incorporated, 1991; Prentice-Hall, Incorporated, Englewood Cliffs, New Jersey 07632.

b. OSF/Motif Documentation - Figures, 1990; OSF Corporation, Cambridge, Massachusetts 02142. (U)

3.0 Design Overview

The ABI System Architecture as shown in Figure 3.0-1, integrates strategic intelligence, tactical intelligence, and GPS broadcasts to enhance real time threat awareness/avoidance. (GPS is used for AMC only). ABI serves a wide user base and supports flexible mission demands. ABI uses the CIS AA modified for airborne applications as its correlator and integrates the look and feel of MSTS.

The ABI system is a situation awareness capability designed to receive, process and display near real-time intelligence and operational information overlaid onto imagery and charts. The technology includes flight following, two and three-dimensional threat displays, route replanning, terrain perspective views and mission preview.

The system loads and stores aeronautical charts, multispectral and high-resolution imagery. Near real-time Signal Intelligence (SIGINT) and Radio Detection and Ranging Intelligence (RADINT) is received in-flight and its symbology is overlaid onto stored images and charts, indicating parameters and lethality ranges in two and three dimensional representations. Flight following includes GPS input/update. Off-line mission rehearsal fly-through can be generated as can interactive, operator-controlled fly-over.

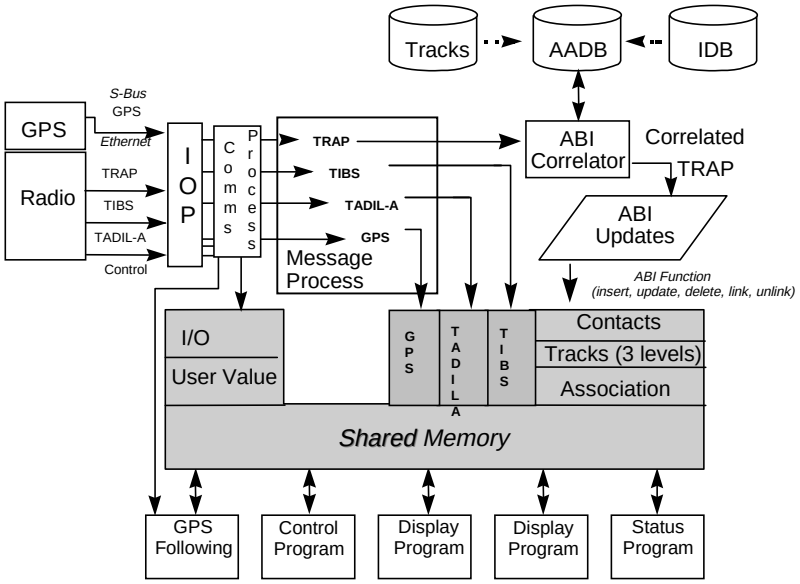

Figure 3.0-1 ABI System Architecture

3.1 Hardware Suite

The ABI hardware suite consists of a single processor Sun Ultra 2 workstation with the Creator 3D Graphics System.

Additional hardware consists of:

- MATT or QuadZebra radio
- Supporting external cryptos to include two KGR-96 and a KG-40A Crypto key mats for appropriate inputs
- Crypto fill device CZY-10, KYK-13 or KOI-18

3.2 ABI Software

The ABI Version 1.2 software consists of the following:

- Solaris 2.5.1 (May 1996) with Y2K Patches
- CIS 1.2 (Customized for ABI) with US Only Patches / AA 5.0 Standalone
- ABI Database (AA 5.0 Build 22.4 DB)
- ABI Display Software
- ABI Data Fusion Engine

4.0 ABI Build Procedures

4.1 Purpose

The purpose of this document is to describe the steps necessary to install the ABI software on a fielded system.

4.2 What You'll Need

4.2.1 Hardware

To install the ABI software, you will need an Ultra 2 system with 2 x 9GB hard drives, a CD-ROM disk and a 4mm tape drive (with minimum of medium density read capability).

4.2.2 Software

- Solaris 2.5.1 Installation CD (May 96)
- CIS 1.2 Customized for ABI Install tape
- CIS US UPGRADE V1.2 tape
- ABI 1.2 Install tape

4.2.3 Personnel

To install the ABI software, the installer must have a working knowledge of UNIX and experience entering shell commands and manipulating windows.

4.3 Operating System Installation

All system hardware should initially be turned OFF. For this step, the Solaris CD-ROM is required.

NOTE: *You must follow all of these instructions <u>each</u> time CIS 1.2 software needs to be installed even if you are only installing a newer version of CIS. If only an ABI Installation tape is to be installed, skip to section 2.5.*

NOTE: Ensure hard disk drive Small Computer System Interface (SCSI) addresses are 0 (boot) and 1 (data). Ensure 4mm tape drive SCSI address is 4. Ensure Solaris 2.5.1 CD is labeled "May 1996".

1. Insert the Solaris CDROM into the CD disk drive. At the **ok** prompt, type:
   boot cdrom
   The system takes several minutes to bring up OpenWindows and display a prompt screen and the "Solaris Install Console" window.

2. When OpenWindows comes up, the "Solaris Installation Program" window appears with **Continue/Help** buttons: **DO NOT CHOOSE EITHER OPTION**.

3. Instead, start a shell by clicking the right track ball button on the background to bring up the "Install Workspace" menu. Right track ball click the **Utilities** menu and select **Command Tool.**

4. Wait for the "cmdtool - /sbin/sh" window to appear. At the # prompt, type: **format**
   The system will present specific disk information, for example:
   AVAILABLE DISK SELECTIONS:

   Example: 0. c0t0d0 <segate-st1917'm-0024cyl5266ALT2hd20 sec 168>/sbus@1F, 0/sunw,Fas@e, 8800000/sd@0,0

   /sbus@, f8000000/esp@0,8000000/sd@0,0

   NOTE: *If the disk you are using is one that has never been labeled, the workstation will tell you that it is not labeled and will ask you to do so. Type: **no** and continue to follow instructions. <u>Do not label the disk until these instructions tell you to do so</u>.*

5. Disk '0' will be your boot disk. Specify the disk by typing: **0**. The "FORMAT MENU" will then appear.
6. At the **format>** prompt type: **type**. This will bring up a listing of available drive types.

7. Type: **0** (Zero) to **Auto Configure** from the list at the **Specify disk type (enter its number)** : prompt. You will then see an output that closely matches the following template:
   c0t0d0: configured with capacity of *x.xx*GB
   < Specific disk information displayed here >
   selecting c0t0d0
   [disk formatted]

   NOTE*: If disk is not formatted, type **format**. After formatting is complete, type: **quit,** then type : **Format** and repeat step #5 and continue with load procedures.*

8. At the **format>** prompt, type: **defect**
   At the **defect>** prompt, type: **both**
   When the **defect>** prompt returns, type: **quit**.

9. You are now ready to label the disk.
   At the **format**> prompt, type: **label**
   When asked, "Ready to label disk, continue?" type: **y**
   At the **format**> prompt, type: **quit**
   You will now be back at the **'#'** prompt.
   Type **exit**

10. Within the border of "The Solaris Installation Program" window, click the left track ball button to bring the window to the foreground, and then select **Continue**.

11. If an "Identify This System" dialog box is displayed, select **Continue**.

12. You will now be asked for the workstation host name. Left track ball click inside the text box and type a user defined host name, then select **Continue**.

    NOTE: *Do not use minus signs in the host name, even though it says it's OK. Host name must be at least 3 characters and lower case*. (example: abi) *Write this name down for later use in the installation procedure.*

13. The next window will ask you to determine if the workstation is networked or not. It is defaulted to **Yes**. Select **Continue**.

    NOTE: *Always use the default even if your workstation is not network connected. This is where the workstation is told to load the networking software. If not connected, you will see an error (e.g., **le0 not found**) during bootup in the console window. This can be corrected by putting a terminator on the Ethernet port on the back of the workstation.*

14. The workstation IP address will be requested next. Type in the IP address and select **Continue**.

    NOTE: *Each site will have a unique network assigned IP address. If your terminal will not be networked, use 192.1.100.100*

15. The "Confirm Information" window will appear next with the Host name, Network default, and IP address listed. If all information is correct, select **Continue**.

16. The workstation will take a few seconds to start network services. It will then ask you to select a name service. Select **None**, then **Continue**.

17. A "Confirm Information" window will appear with Name service listed as **None**. If correct, select **Continue**.

18. You will next be asked if the system is part of a Subnet with the default equal to **No**. Select **Continue**.

19. The window will then ask you to specify a Time Zone. Select applicable time zone(click Offset from GMT), then select **Set**.

    NOTE: *The offset from GMT is measured by your workstation to GMT, not the other way around. This means, for example, that an operator at Davis-Monthan AFB would set his/her offset to GMT+6 (because GMT is six hours ahead of local time) rather than GMT-6 and input local time.*

20. The next couple of windows will vary, depending on the selection of time zone setting. Select the settings you desire and then select **Continue**.

21. If information is correct, select **Continue** until you get the confirmation window with the Subnet default, Time Zone, Date, and Time listed. If the information is correct, select **Continue**.

    NOTE: *The windows will disappear for a minute or two and the workstation will seem like it's doing nothing. Wait for the information in the next window to appear.*

22. At the "Install Solaris Software Initial" window – select **Continue**

    NOTE: *If you are loading on a system that already has Solaris installed, the workstation might ask if you want to upgrade. If so, select **Initial**. If this window does not appear, proceed to the next step.*

23. The workstation will then ask for system type, with **Stand-alone** listed as default. This has to do with the system network software and not the CIS 1.2 software setup. Select **Continue**.

24. You will then be asked to select specific software installation option. Select **Entire Distribution plus OEM support** and then select **Continue**.

25. The "Disks" menu is displayed next with two boxes within the window. One is labeled "Available Disks:". The other box is labeled "Selected Disks:". In between the two boxes are subdued "Add" and "Remove" buttons. Using the left track ball button, **Select** the boot disk listed in the "Available Disks:" box. This will cause the add button to become active. Select the **Add** button.

26. The designated boot disk will now appear in the "Selected Disks:" box. Select **Continue**.

27. The next window will now ask if you want to "Preserve Data?" Select **Continue**.

28. The next window will ask if you want to use "Auto Layout of File Systems?" Select **Manual Layout**.

29. A summary showing your current file system and disk layout will now be displayed. Select **Customize**.

30. A list of the partitions on the disk will appear. To modify the settings, click the left track ball button within the applicable box, then enter the following parameters:

Partition	1st box	2nd box
0:	**/**	**300**
1:	**swap**	**300**
6:	**/usr**	**7970**

NOTE*: Only for 9GB server configurations*.

All other partitions should be blank in first and second boxes.

31. Check for available disk space: click in any of the unused partitions and the available space will be updated and shown at the bottom of the partition window. There must be at least 40MB of

FREE disk space to allow for the audit files: */var/audit.*

32. When the partition table is correct, select **OK**.

33. A warning dialog will appear that says, "Unused disk space <drive name>". Select **Continue**.

34. This will take you back to the "File System and Disk Layout" window. If the information is correct, select **Continue**.

    NOTE: *Sometimes these numbers are larger by 1 or 2 than the numbers you specified.*

35. The next window will ask if you want to "Mount Remote File Systems?" Select **Continue**.

36. This brings up the Profile and asks you to verify. If everything is correct, select **Begin Installation**.

37. A warning dialog again appears about the "Unused disk space". Select **Continue**.

38. A dialog box will then ask if you want to reboot after installing Solaris. Select **Reboot**.

39. A progress meter is now brought up and the Solaris OS installation begins. After about 30-45 minutes, the system reboots. The Solaris OS installation is now complete.

    NOTE: *If the system does not boot at the* ***ok*** *prompt, type* ***set boot-device disk0*** *and then type* **boot.**

40. After the system reboots, you will then be asked to set the root password. Enter your choice of a root password and verify.

    NOTE: *If your root password is not at least 8 characters long, the operating system will automatically add 'x's to reach that number of characters. (All E-3 systems will use the same password). Security classification precludes identifying the password in these instructions. See your System administrator for password.*

4.4 CIS 1.2 Software Installation

NOTE: *For this step, the CIS V1.2 Install Customized for ABI and U.S. Upgrade tapes are required.*

NOTE: *You must follow the instructions of Section 2.1 each time before installing the CIS software even if you are only installing a newer version of CIS.*

1. Log in as **root**. Enter root password. Type: **eject**, then remove and store the Solaris CD.

2. Insert the 4mm CIS 1.2 Install tape and type:

   NOTE: *The rst12 and nrst12 links must point to the correct 4mm device. The install procedure/scripts expects only these devices: 0lb uses the letter l **not** the number 1.*

   rm /dev/rst12
   ln -s rmt/0lb /dev/rst12
   rm /dev/nrst12
   ln -s rmt/0lbn /dev/nrst12
   cd /
   tar xpf /dev/rst12

3. When the prompt returns, type:
   /configure

4. At the **Enter New CIS 1.2 System Authorization String:** prompt, type **777**

5. "Extracting system definition from tape …" is then displayed. The extraction will take about 15-20 minutes. Patches from the tape are being loaded. It will then ask if you wish to continue this installation. Enter **yes**

   NOTE: *By default, the installation will continue automatically in 60 seconds.*

6. "Generating list of files to patched" is then displayed. The required patches will load. (In approximately 1hr. 15 min.) When finished, it will reboot and return the **login** prompt. Log in as **root**. Then enter the root password.

   NOTE: Ignore sendmail messages if they appear.

7. At the system # prompt type:
   tar xpf /dev/rst12

8. When the # prompt returns type:
   /configure

9. At the **Enter New CIS 1.2 System Authorization String:** prompt, type **777**

   NOTE: You will see a couple of messages and the system will appear to not be responding. Wait approximately 5 minutes and the system will continue.

10. When the DoD disclaimer is displayed, read it and if you accept, hit **Return**

11. At the **Enter default router gateway:** prompt, enter the router IP address. If you don't have a default router **(like AWACS)** or are unsure of your default router, then hit **Return**

12. At the next prompt, you would *not* like to obtain an "Initial Host Table" from a remote workstation, so hit **Return**

13. Next, choose the AA Stand-alone system to load by typing: **3**

14. Enter the root password.

15. If the "Checking for possible account servers" message appears, select the workstation you are currently installing by picking the host name from the list. This can be changed later via server selection. If there are no other possible account servers on the network, proceed to Step 16.

16. At the **Proceed [y]?** prompt, hit **Return**

17. The workstation will then begin to load the CIS software. This will take about 45 minutes to complete. You may leave the workstation unattended at this time.

18. After the CIS Install tape is complete, you will need to install the U.S. Patch tape. At the **Type input here = =>** prompt, type **done**

    The workstation will bind the software. This takes a few minutes. Once the software is loaded and bound, the workstation will reboot. Make sure the system reports, "All TIP packages up". If any TIP package fails or is reported as "still coming up," reboot the system. If all TIP packages are not up after rebooting **3 times**, rebuild the entire system starting with Step 1 of the Operating

System installation procedures in Section 2.1. Ignore error messages prior to TIP packages concerning SMPT, NIS, or dd

19. At the **login** prompt type: **admin**

20. When prompted for a password, type the default admin password: **cis12adm**

21. When the DoD disclaimer is displayed, read it and if you accept, hit **Return**

22. The workstation will then ask you to change the password. Enter and verify your new password.

    NOTE: *Passwords must be at least 8 characters and be a combination of alpha and numeric characters.*

23. Insert the 4mm CIS U.S. UPGRADE V1.2 (U) tape into the tape drive.

24. After the "Application Manager" window appears, select the **System_Functions** folder, then the **Security_Administration** folder and invoke the **Superuser Shell** icon.

25. Enter the root password. A shell window will then appear. Create a temporary directory (it will be removed automatically after the install is complete) where the patch tape will be loaded. In the shell window type:

    cd /usr
    mkdir tmppatch
    cd tmppatch

26. Load the tape by typing:
    tar xpf /dev/rst12

27. When the system prompt returns, invoke the install patch script by typing:
    /usr/tmppatch/install_patch

28. A series of popup windows will appear next; the first asks if the patch should be applied. Select **Apply_Patch**

29. A notification window concerning *grrr errors* is next. Select **I can ignore grrr errors**

30. The status of any *unmounting errors* appears next. If no errors are listed, select **Continue**

31. The next window explains that "This is an update for U.S. only." Select **I understand**

32. The last window indicates that the patch is complete. The Superuser shell may show 2 *mv: access* errors - ignore them. On the popup window, select **OK**. The system will now reboot.

33. Eject the tape. CIS 1.2 software installation is complete.

4.5 Security Parameters

1. Login as **admin**. When the DoD disclaimer is displayed, read it and if you accept, hit **Return**

2. In the "Application Manager" window, select the **System_Functions** then **Security Administration** folders, and invoke the **Security Parameters** icon. Modify/Set the following parameters as shown:

   Admin assigns privs =yes
   administrative =no
   application =no
   auditing =no
   Classification =Secret U S Only
   exec =no
   file_attr_acc =no
   file_atr_mod =no
   file_close =no
   file_creation =no
   file_deletion =no
   file_read =no
   file_write =no
   ioct1 =no
   ipc =no
   login_logout =no
   network =no
   non_attrib =no
   other =no
   process =no

   Verify the settings as shown above, then select Accept.

3. Double click left mouse button on "go up". Then double-click the left mouse on the "Data_Management_Menu**"** window, execute the **Server Selection** icon and enter the Host server name in the "DM Server" box. (What you entered in section 2.1, Step 13), then select **Accept**.

4.6 Configuring the Data Disk

Select *go up,* select *Security Administration,* Select *Super Shell*

1. Enter root password.

2. Type **format** and confirm that both the boot (0) and data (1) disks are present. Make a note of the data disk address, e.g., **c0t1d0**. Select the data disk **1**. Ensure no warning messages appear.

3. Create the disk partitions by typing **partition**. At the **partition>** prompt, type **0**. For each specific partition's prompted field, enter the values specified in the table below:

Partition	ID tag	Permissions	Start Cylinder	Size
0	unassigned	wm	0	0
1	unassigned	wm	0	0
2	unassigned	wm	0	5266c
3	unassigned	wm	0	0
4	unassigned	wm	0	0
5	unassigned	wm	0	0
6	unassigned	wm	0	0
7	home	wm	0	5266c

   NOTE: *5266c is used as an example. Make partition 2 and partition 7 the full size of the disk.*

4. Type **print** to display the partition table and confirm the partition layout.

5. Label the disk when the partitions have been created. Type:
   label
   yes

6. Exit the format command. Type: **quit**, then **quit** again to return to the shell prompt.

7. Construct a new file system for Partition 7. At the shell prompt, type:
   newfs /dev/rdsk/*c0t1d0s7*

   NOTE: *c0t1d0s7* is used here as an example. This value is retrieved from the format command in step 4 where *c0t1d0s7* is the partition (i.e., segment) just created on the data disk.

8. Respond **y**↵ to the question to construct a new file system. This takes about 15 minutes.

9. When the prompt returns, create the */abi/disk2* mount point at the root by typing:

   cd /
   mkdir /usr/abi
   chmod 777 /usr/abi
   mkdir /disk2
   chmod 777 /disk2
   ln –s /usr/abi /abi
   ln –s /usr/abi /mac

   CAUTION: ***vi edit can impact the ABI functionality. Knowledge of UNIX System Administration is absolutely required, incorrect editing will result in system failure.***

10. Edit the */etc/vfstab* file to include the swap partition and the newly mounted partition. Add the following line in the */etc/vfstab* file replacing ***c0t1d0s7*** with your data disk address.
    /dev/dsk/*c0t1d0s7* /dev/rdsk/*c0t1d0s7* /disk2 ufs 2 yes -

11. Type: **mount /disk2**

12. Type: **df –k**

    NOTE: *Command confirms the mount was successful*.

13. Type: **mkdir –p /disk2/rpf/cdrg**
    chmod –R 777 /disk2/rpf

4.7 Install ABI Tape

***** In the root window (from Section 2.4) *****

1. Kill the sys_exec process to stop all ABI processes. Type:
   ps -eaf | grep sys_exec
   kill -15 *xxxx*

   NOTE: *xxxx is the PID of the sys_exec process*.

2. Wait about 30 seconds, confirm all aa processes have terminated. Type:
   ps -eaf | grep aa_

   NOTE: *No processes should be returned.*

3. Insert the ABI Install tape and change to the root directory, then load the tape. Type:
   cd /
   tar xpf /dev/rst4

4. After the ABI Install tape is loaded, make the CIS desktop changes by invoking the install script. Type:
   /opt/abi_tmp/cis_abi_install
   At the **ABI Server name** prompt, enter the applicable ABI server name.

5. Eject the tape.

6. At the # prompt, type:
   dmesg | egrep "^mem" Divide the total memory in half.
   grep shmmax /etc/system

   Look at the line: *set shmsys: shminfo_shmmax =xxxxxx000*

   CAUTION*: vi edit can impact the ABI functionality. Knowledge of UNIX System Administration is <u>absolutely</u> required, incorrect editing will result in system failure.*

7. If necessary, edit (vi) the */etc/system* file so the max shared memory is half the total memory. For example, if total memory = 524288K (0x20000000), then the shared memory line should read: *set shmsys: shminfo_shmmax =262144000.*

NOTE: *Perform Steps 10 & 11 only if ABI is NOT installed on this system. If you are installing an ABI update version, then skip Steps 10 & 11.*

8. Extract the OpenGL packages. At the # prompt, type:
   cp /opt/abi_tmp/OpenGLpkgs.tar /tmp
   cd /tmp
   tar xvf OpenGLpkgs.tar

9. Type: **./INSTALL** and responding *yes* (y) to any questions.

10. Remove the *OpenGLpkgs.tar* file. At the # prompt type:
    rm /opt/abi_temp/OpenGLpkgs.tar

11. Type: **admintool**

12. Pull-down Browse menu to Serial Ports. Select: **Port a**

13. Pull-down Edit menu to Modify. Change template to: **Initialize Only – No Connection**

14. Press **OK** button

15. Press **OK** button on error message box (if necessary)

16. Select **Port b**

17. Pull-down Edit menu to Modify. Change template to: **Initialize Only – No Connection**

18. Press **Apply** button, then press **OK** button

19. Press **OK** button on error message box (if necessary)

20. Pull down File menu to Exit

21. **Type:**
```
mkdir /diskt2_p0
mkdir /diskt2_p1
mkdir /diskt2_p2
mkdir /diskt2_p3
mkdir /diskt2_p4
mkdir /diskt2_p5
mkdir /diskt2_p6
mkdir /diskt2_p7
mkdir /diskt3_p0
mkdir /diskt3_p1
mkdir /diskt3_p2
mkdir /diskt3_p3
mkdir /diskt3_p4
mkdir /diskt3_p5
mkdir /diskt3_p6
mkdir /diskt3_p7
mkdir /diskt5_p0
mkdir /diskt5_p1
mkdir /diskt5_p2
mkdir /diskt5_p3
mkdir /diskt5_p4
mkdir /diskt5_p5
mkdir /diskt5_p6
mkdir /diskt5_p7
```

22. Reboot the system by typing **reboot.** ABI installation is now complete.

NOTE: Sometimes on reboot the system hangs after starting syslog. If it does type: **<stop a>** then type **sync** after the prompt**.**

4.8 ABI Icons Setup

The following steps are required in order to provide a *start_abi* icon at the desktop level.

1. From the "Application Manager" window, select the **INTEL_Applications** folder, then select the **AA** folder.

2. From the "**AA"** window, single click the **start_abi** icon to highlight it. Hold the left track ball button down, then drag the icon onto the desktop to where the position of the icon on desktop is suitable, then release the track ball button. ABI Icon Setup is now complete.

3. From the "**AA"** window, single click the **nrt_update** icon to highlight it. Hold the left track ball button down, then drag the icon onto the desktop to where the position of the icon on desktop is suitable, then release the track ball button. NRT Icon Setup is now complete

NOTE: *Prior to initializing displays you must load CARDG, DTED, Imagery, ADRG, etc. If no data is loaded the Tri-window speed buttons will only display the World Data Base (WDB) map.*

4.9 Load Chart and DTED Data

4.9.1 To Load Charts

1. Start ABI
2. Select: **Utilities**
3. Select: **Expert Functions**, a utility pull down window opens.
4. Select: **Imagery/Chart**, an Imagery/Chart submenu opens.
5. To load chart data, select: **Import CIB/CARDG**

   Repeat Steps 6-9 for as many CDs as required.

6. Insert chart CD in CD ROM drive.
7. Select: **Check CD**
8. Select: **Load CD**
9. Chart data will load and CD will eject.
10. Select: **Quit**

4.9.2 To Load DTED

1. Select: **Import DTED** under Expert Functions pull down menu.
2. Import DTED menu is presented.
3. Set Lower Left Lat (HDD), Lower Right Lon (HDDD), Upper Right Lat (HDD), Upper Right Lon (HDDD) fields on the set-up window. The numbers for Lat/Lon are found on the front of the CD ROM.
4. Select: **OK**.

4.9.3 To Load MSI

1. Open a UNIX window
2. SU to root.
3. Type: **cd /mac/IMAGES**
4. Load 4mm tape into tape drive.

4.10 Initialize Displays

If chart imagery has been loaded, the following steps are required in order to initialize the chart display configuration files.

1. Double click the **start_abi** icon.
2. Select **OK** in the Date and Time window.
3. Select **Quit** in the "MATT Radio" setup window.
4. When the "WDB World Map" is fully displayed, select the **Tri-window** speed button on the top executive banner. Wait until all 3 displays are fully loaded before proceeding (approximately 1-2 minutes).

5. Select the **Utilities** pull-down menu from the top executive banner. Select the **Expert Functions** option, then select **Quit**.

6. The ABI system chart displays are now initialized and ABI can be restarted for operation.

5.0 ABI Disk Update Procedures

1. Click Utilities/Expert Functions/Update Disks to open the Update Disk Window (Figure 5.0-1)

Figure 5.0-1 Update Disk Window

2. Select the Source as either Disk A - Software or Disk B - Maps.
3. Select each of the target drives.
4. Click Update Selected Disks.
5. To close window without copying any information, click Quit.
6. To view a help screen for disk updates, click Help.

NOTE
If the garage is not attached, this command will not effect any changes.

6.0 ABI Disk Copy Procedures

Disk duplication should be done using an inactive source disk as well as inactive destination disks.

6.1 Disk A

1. Place source disk (A) in slot 2 of garage.

2. Place disk(s) to be over-written in slot 3 and/or 5.

3. Bring up a unix Superuser window.

4. Format <cr>
   (Make sure that you see all the disks – c0t0d0, c0t1d0, c0t2d0 and one or both of c0t3d0 and c0t5d0).

   Select the number for the disk you are using. If your disk is in slot 3, it is c0t3d0, and the number is prbably 3. If it is in slot 5,it is c0t5d0, and the number is probably 4.

   # <cr>
   pa <cr>
   pr <cr>
   0 <cr>
   swap<cr>
   wu<cr>
   0 <cr>
   183c <cr>
   1 <cr>
   <cr>
   <cr>
   183 <cr>
   183c <cr>
   2 <cr>
   <cr>
   <cr>
   5241 <cr>
   25c <cr>
   3
   <cr>
   <cr>
   0 <cr>

0 <cr>
4 <cr>
<cr>
<cr>
0 <cr>
0 <cr>
<cr>
<cr>
<cr>
0 <cr>
0 <cr>
6 <cr>
<cr>
<cr>
366 <cr>
4875c <cr>
7 <cr>
<cr>
<cr>
0 <cr>
0 <cr>
l
y
q
q

5. (For new disk in Slot 3)

mkfs_A_3 <cr>
cpyfs_A_3 <cr>
umount /diskt3_p6

(For New Disk in Slot 5)

mkfs_A_5 <cr>
cpyfs_A_5 <cr>
umount /diskt5_p6

6.2 Disk B

1. Place source disk (B) in slot 2 of garage.

2. Place disk(s) to be over-written in slot 3 and/or 5.

3. Bring up a unix Superuser window.

4. Format <cr>
   (Make sure that you see all the disks – c0t0d0, c0t1d0, c0t2d0 and one or both of c0t3d0 and c0t5d0)

   Select the number for the disk you are using. If your disk is in slot 3, it is c0t3d0, and the number is prbably 3. If it is in slot 5,it is c0t5d0, and the number is probably 4.

   # <cr>
   pa <cr>
   pr <cr>
   0 <cr>
   <cr>
   <cr>
   0 <cr>
   0 <cr>
   1 <cr>
   <cr>
   <cr>
   0 <cr>
   0 <cr>
   2 <cr>
   <cr>
   <cr>
   0 <cr>
   0 <cr>
   3
   <cr>
   <cr>
   0 <cr>
   0 <cr>
   4 <cr>
   <cr>
   <cr>
   0 <cr>
   0 <cr>

<cr>
<cr>
<cr>
0 <cr>
0 <cr>
6 <cr>
<cr>
<cr>
0 <cr>
0 <cr>
7 <cr>
<cr>
<cr>
0 <cr>
5266c <cr>
l
y
q
q

5. (For new disk in Slot 3)

mkfs_B_3 <cr>
cpyfs_B_3 <cr>
umount /diskt3_p7

(For New Disk in Slot 5)

mkfs_B_5 <cr>
cpyfs_B_5 <cr>
umount /diskt5_p7

7.0 ABI Disk Upgrade Procedures

Disk "Upgrade" procedures facilitate the loading of new versions of ABI (Disk A) software. An ABI upgrade tape will be sent to system administration sections in the field where trained personnel can commplete the upgrade. From the 4mm DAT Tape an "upgraded master disk A" is created, and additional disks can be copied if desired following the procedures for ABI Disk Copy, Section 6.1.

1. Insert 4mm tape into tape drive and wait for lights to stop flashing.

2. Follow instructions for upgrade that will be provided with the tape.

3. Halt ABI system.

4. Type: **boot –s** (Boot into single user mode).

5. Put a new disk to be created into Slot 3 of garage.

6. Format disk as in Section 6.1, Step 4.

   mkfs_A_3
   dd if=/dev/dsk/c0t0d0s0 of=/dev/dsk/c0t3d0s0
   dd if=/dev/dsk/c0t0d0s2 of=/dev/dsk/c0t3d0s2

7. Type: **mount /diskt3_p6**

8. Type: **cd /diskt3_p6**

9. Type: **ufsdump 0f - /dev/rdsk /c0t0dos6 | ufsrestore rf -**

10. Type: **rm /diskt3_p6 /restoresymtable**

11. **Type:** **umount /dev /diskt3_p6**

Move the newly created master disk from Slot 3 to Slot 2 and duplicate additional disks as necessary following instructions in Section 6.1

8.0 IDB Extract Procedures

1. Log in to the CIS system as sysadmin with the appropriate password for that user.
2. Start application manager
3. Double click DII Tools
4. Double click L: SA_Default
5. Double click Xterm
6. Login as dbadmin
7. Insert ”MIDB Extract (U)” 3.5 floppy disk into drive
8. **Type: volcheck**
9. **Type: cd /tmp**
   mkdir midb
   cd midb
   cp /floppy/floppy0/
10. Edit: get_midb
    Change USER & PASSWD to match this system
11. **Type: ./get_midb**
12. **Type: eject floppy**
13. Eject tape

9.0 IDB Load Procedures

The IDB can be loaded onto the ABI system using a 4mm DAT Tape or a CD-ROM.

Figure 9.0-1 IDB Load Window

9.1 IDB Load Procedures from 4mm DAT TAPE

1. Select **Setup/Filter/IDB Symbols**.

2. Insert IDB tape from “IDB Extraction Procudure” (Section 8.0) into the tape drive of the ABI system and wait for the tape to get loaded. (There are no lights blinking).

3. Click the “Load IDB from Tape” button (See Figure 9.0-1). The IDB transfer process will begin, and the tape drive lights will blink.

4. Tape drive lights stop blinking when the load process is complete.

5. Manually eject the tape.

9.2 IDB Load Procedures from CD

1. Select **Setup/Filter/IDB Symbols**.

2. Insert the CD with the IDB into the CD drive of the ABI system

3. Click the “Load IDB from CD” button (See Figure 9.0-1). The IDB transfer process will begin, and the CD drive light will blink.

4. The CD drive light stops blinking when the load process is complete.

5. Remove the CD.

11.0 Notes

Acronyms

2D ..... Two Dimensional
3D ..... Three Dimensional
AA ..... Automatic Associator
ABI ..... Airborne Broadcast Intelligence
AOI ..... Area of Interest
AMC ..... Air Mobility Command
CADRG ..... Compressed ARC Digitized Raster Graphics
CCS ..... Combat Intelligence System (CIS) Core Software
CD ..... Compact Disk
CDE ..... Common Desktop Environment
CD-ROM ..... Compact Disk Read Only Memory
CIS ..... Combat Intelligence System
CPU ..... Computer Processing Unit
CSCI ..... Computer Software Configuration Item
DMA ..... Defense Mapping Agency
DTB ..... Defense Mapping Agency
DOD-STD ..... Department of Defense Standard
ELINT ..... Electronic Intelligence
GB ..... Gigabyte
GNC ..... Global Navigation Charts
GPS ..... Global Positioning System
GUPS ..... Global Uninterruptable Power Supply
IDB ..... Integrated Data Base
I/O ..... Input/Output
IOP ..... Integrated Communications Processing
IPC ..... Inter-Process Control
JCS ..... Joint Chiefs of Staff

JNC ..... Joint Navigation Charts
LAN ..... Local Area Network
MHz ..... MegaHertz
MMI ..... Man Machine Interface
MSI ..... Multi-Spectral Imagery
MSTS ..... Multi Source Tactical System
NRT ..... Near Real Time
OM ..... Object Manager
ONC ..... Operation Navigation Charts
PPU ..... Protocol Processing Unit
RADINT ..... Radio Detection and Ranging Intelligence
RAM ..... Read Access Memory
RF ..... Radio Frequency
SIDS ..... Secondary Imagery Dissemination System
SIGINT ..... Signal Intelligence
SDD ..... Software Design Document
TIBS ..... Tactical Information Broadcast System
TBMCS ..... Theater Battle Management Core Systems
TOR ..... Time of Receipt
TLM ..... Topographic Line Maps
TPC ..... Theater Pilotage Charts
TTA ..... Tactical Information Broadcast (TIBS) TADIL Associator
U ..... Unclassified
UIF ..... User Interface
UHF ..... Ultra-High Frequency
USMTF ..... U.S. Message Text Formatting